

Mass Grading

Mass grading is defined as grading that is completed on a large scale over a large area which includes all the area approved for development at Traverse Mountain (see Mass Grading Exhibit 1) and includes the process of achieving a desired ground configuration by altering the existing ground contours through engineered cutting and filling of soils. Mass grading generally does not create final designed pads and a rough grading plan and/or precise grading plan will typically be used once the specific product has been determined. The mass grading operation will balance the soils such that the final grading operation will not import or export beyond trench and fine grading spoils.

East and Central Canyon will be a balanced mass grading operation. West Canyon has been permitted by Lehi City to be an export mass grading operation with the exported materials being transferred to the adjoining Geneva Rock property or transported out Flight Park Road.

All mass grading within the East Canyon Planning Areas A, B, and D as well as the 5.4 acre private park in Planning Area C2 shall be done in one phase including slope protection and revegetation. The grading may stop during winter weather conditions; however the intent is to proceed with grading until completion. Planning Area C1 grading may be done separately from the mass grading at Planning Area A, B, C2, and D.




All graded slopes created during the mass grading operation will be revegetated with an appropriate seed mix see Exhibit 2 for sample seed mix with recommendations for planting methods and the planting season.

Exhibit 3 - Traverse Mountain Exceptions from the Lehi City Grading Permit and Hillside Preservation Ordinance was approved by Lehi City Council on November 11, 2008, and is made a part of this Area Plan as a reference to the granted exception to the Lehi City Development Code Chapter 12-A.

Soil screening and rock crushing machinery is permitted in all area designated for mass grading on a temporary basis while the mass grading operation is occurring.

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Summary

Summary		Gross Acres	Existing Units	Proposed Units	Total Units
	Existing	474.2 ⁽¹⁾			
	SFD	--	1434	--	1434
	TownHomes	--	122	--	122
	Apartments	--	344	--	344
	HDR (6.1-20)	49.1	--	434	434
	MDR (1-6)	58.1	--	184	184
	Existing Active Parks	18.5 ⁽²⁾	--	--	--
	Future Active Parks	28.1			
	Jordan Narrows	12.45 ⁽³⁾			
	Open Space	25.7			
	Perry Homes	153.6 ⁽⁴⁾	--	968	968
	Highway Commercial	269.5 ⁽⁵⁾	--		
	Manufactured Slopes	172.4			
	Canyon Open Space ⁽²⁾	971.4			
	Misc Rds/Open Space	69.8			
	East Canyon	113.0	--	826	826
	Central Canyon	134.8	--	900	900
	West Canyon	72.1	--	600	600

Notes:

- (1) Excludes parks and open space; Includes schools, churches, tm sales, and major roadways
- (2) Includes 3.7 acres of community trails. See active parks plan for the location of trails.
- (3) Jordan Narrows is an off-site park which Mountain Home assisted with the acquisition of the park/detention basin property. Jordan Narrows is a dual use soccer park facility (multiple soccer fields) and detention basin. It is not included in the total acreage


(4) 5-acre Public Park Included under Future Active Parks

(5) Includes 27.3-acre parcel that can be developed as HDR OR Highway Commercial

- 1) Two additional elementary school sites are being planned for in this Concept Plan. One of these possible elementary school sites is being planned at Planning Area A or B in East Canyon. The second possible elementary school site is being planned at the Flex Area of Central Canyon.
- 2) Should a future elementary school(s) be developed within Traverse Mountain the residential densities attributable to these sites will not transfer to another property but shall be forfeited. Should an elementary school site be purchased in the Flex Area of Central Canyon a density yield of six units per acre shall be used to calculate the number of forfeited units.
- 3) All mass grading within the East Canyon Area including slope protection and revegetation shall be done in one phase.
- 4) The 1.819 acre park shown at Planning Area A in East Canyon will be replaced with the 2 acre private park as shown on this Concept Plan at Planning Area A. The 1.819 acre park was intended as a place holder until the new Area Plan is approved. Lehi City will deed the 1.819 acre park back to Mountain Home once the Area Plan is approved.



MASS GRADING EXHIBIT 1
Area Plan



**WILLIAM HEZMALHALCH
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EXHIBIT 2

Re: Re-Vegetation Recommendations

Prepared for:

Mountain Homes Development Corp
Traverse Mountain
Lehi, Utah
c/o Jack Hepworth
September 27, 2011

Dear Lehi City Staff,

Northland Design (The Consultant) contracted with Mountain Homes Development Corp. (The Client) to prepare a report that meets the requirements of Section 12-A.030-D4 Hillside Preservation Development Standards as set forth by the City of Lehi.

1. Re-vegetative Plan

The following re-vegetative plan (Table 1) includes a seed-mix specifically selected for the Traverse Mountain project taking into consideration the existing plant communities found on the site. It is recommended that construction and silt fencing be placed to provide a limits of disturbance line to minimize damage to existing adjacent plant communities to remain.

Proposed hillside grades for the site are 2 to 1 slopes at final completion. The existing surface soil face consists of silt, sand, gravel and bedrock.

Table 1. – Species Recommended for Direct Seedings

Species		Seeding Rates lbs/ac (PLS)
<i>Grasses</i>		
Bluebunch wheatgrass	Agropyron spicatum	2
Mountain brome	Bromus carinatus	3
Slender wheatgrass	Agropyron trachycaulum	3
Western wheatgrass	Agropyron smithii	4
Pubescent Wheatgrass	Agropyron Trichophorum	3
Hard Fescue	Festuca ovina	2
(Source: Great Basin Seed, Ephraim Utah)		
Total		18

2. Maintenance Recommendations:

Existing Plantings:

Existing plantings if protected during construction shall maintain themselves and not require any maintenance. Protective measures should at a minimum be:
Visible construction fencing and necessary silt fencing.

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Proposed Planting:

When seeded correctly this mix requires no maintenance and is intended to establish itself. Re-seeding is occasionally required where seed didn't establish or was thinned.

3. Methods for Minimizing Problems

Planting Methods

All seeds must be incorporated into soil to adequately germinate and establish. Seeds may be distributed on the soil surface by hand or mechanical broadcasting; however some means must also be employed to cover the seeds with an appropriate amount of soil. New plants are difficult to establish on steep and unstable slopes primarily because seeds are not placed or incorporated into the soil. Most seeds require 0.25 inch depth placement in the soil. Seed coverage can be accomplished using drags, rakes, or rails. Depositing seeds on a roughened surface and placing mulch or erosion blankets can improve seedling establishment, however these practices alone will not assure successful establishment of many species. Seeds should be covered immediately after broadcast distribution to prevent wind and water erosion and loss to small mammals, insects, and birds.

Planting Season

Direct seeding should be completed in the late fall and early winter period, normally during October and November. Late fall plantings are recommended to prevent seed from germination in the summer months when consistent moisture is not available to maintain the small seedlings. In addition, seeds of some species require a period of cold and moist conditions to break dormancy and germinate uniformly. Seeds deposited and maintained in the soil over winter normally germinate in the spring when soil moisture is available to assure germination and initial establishment. Over-winter stratification of the seeds eliminates dormancy and allows for uniform germination and seedling establishment. (*Information by Western Ecological Consulting Inc. 2004*)

If there are further questions regarding this report please call me at the numbers listed above.

Thank you,

Jeremy S. Fillmore, President, LLA
Licensed Landscape Architect
Northland Design Group

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Exhibit 3

**Traverse Mountain Exceptions from Lehi City
Grading Permit and Hillside Preservation Ordinances**

In the approved Area Plan it was agreed that the scale and scope of the development required flexibility and creative design techniques, and that design and engineering standards need to be in harmony with the scale and special circumstances at the Traverse Mountain Property.

Lehi City's Grading Permit and Hillside Preservation Ordinances do not precluded Traverse Mountain from their vested rights under the approved Concept Plans. Per the August 15, 2006, City Council approval of the June 1, 2006 Concept Plan mass grading will occur in the Canyon District and elsewhere on slopes that exceed 30%. The following language is a part of the June 1, 2006 approved concept plan. "The Canyon District at Traverse Mountain will consist of several types of mixed-use residential and commercial development including various themed attached and detached housing, cluster housing, townhomes, rental properties, high rise construction up to 12 stories for various mixed-uses and district retail including neighborhood retail and resort properties. The development will be integrated with the natural environments to provide a unique canyon living experience. Due to unique terrain conditions and other appropriate constraints and conditions of the property, mass grading will be permitted to achieve the allocated densities (as per the ADA and 1st Amendment). Where grading occurs, slopes will be revegetated with like and natural vegetation."

TRAVERSE MOUNTAIN VARIANCES TO THE GRADING PERMIT ORDINANCE

Grading Permit Requirements Section D

Traverse Mountain shall submit a grading plan, soils report, and geologic report, if recommended, Storm Water Prevention Plan, and a vegetation plan, when applicable for a grading permit.

Submittal Requirements Section C & Grading Permit Issuance Section B) 2

Item 12.060 (K) (1) (steep slopes) is not applicable to Traverse Mountain. Traverse Mountain is allowed to develop areas within the approved Concept Plan where slopes exceed 30% so long as Traverse Mountain meets the criteria outlined in the Lehi City Grading Permit Ordinance as amended by Traverse Mountain in this document. Grading plans shall specifically denote areas that exceed 30%.

Grading Permit Issuance Section A & B) 3

A preliminary plat will not be required for mass grading in Sage and Radio Tower Canyons as identified in the November 18, 2008, Lehi City Council approved Concept Plan; however, a conceptual vision plan will be required prior to issuing a grading permit.

TRAVERSE MOUNTAIN VARIANCES TO THE HILLSIDE PRESERVATION ORDINANCE

Replacement of the Purpose and Intent Paragraph

To ensure that all grading, excavation, filling or erection of any structure on land within the approved Concept Plan shall conform to the Lehi City Hillside Preservation and Grading Permit Ordinance as amended by Traverse Mountain in this document, while giving due consideration to the vested rights of Traverse Mountain and its predecessors in previously approved concept and/or area plans.

Purpose and Intent Sections - Items A - J

Items A, B, F, G, I, and J do not take into account that Traverse Mountain will be permitted to mass grade on slopes that exceed 30% throughout the approved Concept Plan given certain conditions are met which conditions are set forth in the Lehi City Hillside Preservation and Grading Permit Ordinances as amended by Traverse Mountain in this document. Items A, B, F, G, I, and J does not preclude Traverse Mountain of vested rights under the approved Concept Plan. The City has previously approved mass grading throughout the Canyon District with the approval of the June 1, 2006 Concept Plan.

Development Standards and Provisions Section - Item A

Traverse Mountain is allowed to grade, excavate, fill, erect structures, and otherwise disturb slopes greater than 30% provided Traverse Mountain has complied with sound engineering practices and geologic recommendations as well as the Lehi City's Hillside Preservation and Grading Permit Ordinances as amended by Traverse Mountain in this document. Traverse Mountain will submit a preliminary plat to Lehi City Council for all areas within the Concept Plan except those areas approved for mass grading in Sage and Radio Tower Canyons as identified in the November 18, 2008, Lehi City Council approved Concept Plan.